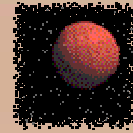


Mars Rovers

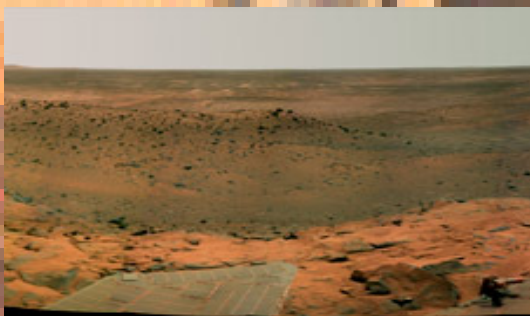


By Theresa

Have you ever wondered what is on Mars? Since Mars is simply too cold, too far, and its air is thin, scientists use rovers to find out more. Rovers are a great way for scientists to discover more about the red planet.

Running Rovers

Rovers take pictures which the scientists look at and use to determine what is happening up there. Among other things, the scientists want to study the rocks and soil to see if there was ever water there, what the rocks are made of, what made the terrain (land), the way it looks now, and if life ever could have existed on Mars. Did you know they are just the size of miniature cars?



A picture sent by a rover from Mars.

Rovers look like tiny cars. They have six wheels. They also have a solar array which the sun hits to power up the batteries so the rover can keep roaming. Rovers use antennae to communicate with Earth. In other words, people on Earth tell the computer in the rover to go right or turn left. The Panoramic camera can take large pictures that can be helpful. Navigational cameras take pictures to help the rover know where it is.

Rovers have lasted three years, but are still up there! Scientists thought they would last about three months. One of the rovers on Mars has a wheel that stopped working. The rover has been dragging that wheel. But, the wheels have revolved more than 13 million times! Probably, when all the wheels stop working, the rover will be useless. I wonder how long they *will* last.

How Scientists Use Them

To get the rovers to Mars the scientists launched the rovers in a rocket. The rovers traveled at 19,300 km/hr. When the rovers were almost at Mars the aero shells popped out to slow the rover

down for 4 minutes. Then, just when the rover was about to crash on Mars, balloon type things came out and bounced around Mars a few times. It took 6 months and 26 days. That's the only time they use the balloon system. But someone has to control where it goes.



Ballon type things getting tested.

That's one scientist's job. The scientist stays in a booth and directs the rover by telling the computer to go somewhere. For example, they say to turn left, or go straight. The booth is located in Pasadena, California.

As you know, the scientists use the rovers to help them. Scientists can tell important things just from the pictures, like how the land is formed and that there once could have been water on Mars. They figured that out because of the way the land is formed. In some places, the only way it could have been formed that way is if there were water there.

Finding Figures

One thing the rovers have found out about Mars is that the air is very thin. In the warmer seasons 95 percent of the air is carbon dioxide, 3 percent is nitrogen and less than 2 percent is argon. All of that information came from the Alpha Particle X-ray Spectrometer on the rover. The Alpha Particle X-ray Spectrometer is another very important part of the rover.

Another thing rovers have discovered are valleys. From the pictures, the scientists noticed that the valleys looked like they were carved out by water. But the rovers couldn't stay in the valley in the winter because there wouldn't be enough sun to power up the rover. The rover had to go to a north tilting mountain where the sun was bright enough to power it up.

One of the most important things scientists have found is that life might have been possible on Mars. Since there might have been water on Mars, something could have lived there, like bacteria. No one knows if there is life on Mars now, if there was life on Mars a long time ago, or if there was never life on Mars. The scientists would have a much easier time if they could go up there, but it is far too cold and is simply too far, but for now, we have rovers that are doing a great job.

